REMARKS

This paper is submitted in reply to the Office Action dated March 30, 2010, within the three-month period for response. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, claims 54, 56, 57, 59-61, 104, 105, 107, 109, 110, and 112-116 were rejected under 35 U.S.C. § 112 second paragraph. Moreover, claims 54, 56, 57, 59-61, 104, 105, 107, 109, 110, and 112-116 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,715,403 to Stefik et al.

Applicant respectfully traverses the Examiner's rejections to the extent that they are maintained. Applicant has amended claims 54-55, 60-61 and 113-114 and Applicant respectfully submits that no new matter is being added by the above amendments, as the amendments are fully supported in the specification, drawings and claims as originally filed. Applicant also notes that the amendments made herein are being made only for facilitating expeditious prosecution of the aforementioned claimed subject matter. Applicant is not conceding in this application that the originally claimed subject matter is not patentable over the art cited by the Examiner, and Applicant respectfully reserves the right to pursue this and other subject matter in one or more continuation and/or divisional patent applications.

Now turning to the subject Office Action and specifically with regard to the §112 rejections, Applicant will address each of the issues raised by the Examiner in the order in which they appear in the Office Action. At the outset, however, Applicant wishes to point out that nearly all of the language the Examiner argues is indefinite was in the original claims filed in 1997, and has until now been found to be fully compliant with §112.

First, in paragraphs 12-14, the Examiner objects to the phrase "of the type" in claims 54, 61, 113 and 114, and additionally notes that Applicant appears to be limited the method to a certain type of computer. Applicant has amended these claims to remove the objected-to language, and notes for the record that the recitation of a computer with a processor was added in the last response solely for the purpose of addressing §101 issues

raised by the prior Examiner, and the language does not even as a practical matter limit the scope of the claims, given other language in the claims already limits the claims to computer-implemented inventions. Particularly given the Supreme Court's recent decision in Bilski, Applicant questions whether this language is even still required to comply with §101, so if the Examiner would prefer that Applicant strike all of this language, or if the Examiner would prefer Applicant amend the claims to incorporate other language to address §101 issues, Applicant would be happy to do so. Nonetheless, Applicant is claiming a computer with a processor, and Applicant submits there is no uncertainty whatsoever with this language.

Second, in paragraphs 15-16 and 19-20, the Examiner objects to the steps of "determining at least one attribute," "comparing the attribute," and "wherein the determining step determines a plurality of attributes" in claim 55, as well as similar language in the other independent claims. Applicant notes that this language was found in the original claims 54 and 55, and the prior amendment to claim 54 incorporating the subject matter of claim 55 merely carried over the text of claim 55 verbatim. Nonetheless, Applicant has amended claim 54 to move the "plurality of attributes" language to the original recitations of the determining and comparing steps, and has amended the identifying step for consistency with these amendments. Applicant has also made similar amendments to independent claims 60, 61, 113 and 114, and Applicant notes that these amendments do not alter the scope of these claims in any appreciable manner.

Third, in paragraphs 17-18, the Examiner objects to the term "most closely matches," arguing that the language is subjective and therefore indefinite. Applicant respectfully traverses this rejection, as Applicant submits that this term, when read in the context of the specification, is definite. Pages 36-39 of the specification, and Fig. 10, for example, describe one suitable method for determining a known party that "most closely matches" in which weighting factors are applied to selected attributes, and the known party that most closely matches is determined to be the known party with the highest sum of weighting factors for matching attributes. While the independent claims are not limited to this specific embodiment, Applicant submits that one of ordinary skill in the art having the benefit of the specification would readily appreciate the scope of the objected-to term, and

would appreciate that a number of different variations on the disclosed embodiment would be possible. Applicant is aware of no blanket prohibition against subjective terms, and Applicant submits that the term "most" is hardly more subjective than a number of other terms commonly. Applicant also submits that there is no requirement to specify in detail in a claim all of the steps involved one a specific embodiment covered by a given claim term. Withdrawal of this rejection is therefore respectfully requested.

Fourth, in paragraphs 21-22, the Examiner asserts that the term "intelligent agent" is indefinite. Applicant respectfully submits that based upon the definition in the specification and the well known meaning of the term, what is and what isn't an "intelligent agent" would be readily apparent to one of ordinary skill in the art. Again, this term has been in the claims since they were originally filed over 13 years ago, and Applicant submits that raising this issue at this point in the prosecution, after several Examiners have already de facto found nothing indefinite about the language, does nothing to streamline the prosecution of this case. A quick search of the term "intelligent agent" on Google.com reveals numerous definitions of the term, all of which are fully consistent with the definition set forth on pages 2-3 of the specification. Applicant therefore respectfully submits that the concept of an "intelligent agent" is fully understood in the art, and withdrawal of this rejection is therefore respectfully requested.

Fifth, in paragraphs 23-27, the Examiner objects to the language "selected from the group consisting of . . . . and combinations thereof." This language, however, is nothing more than a standard recitation of a Markush group. *See, e.g.,* MPEP 2173.05(h) and Ex parte Markush (1925 CD 126 (Comm'r Pat. 1925). A search of the USPTO database reveals over 50,000 patents that have issued since 1976 incorporating the objected-to language, and Applicant submits that the Examiner's objections to this language are entirely inconsistent with long standing precedents approving of this language. Withdrawal of this rejection is therefore respectfully requested.

Sixth, in paragraph 28, the Examiner questions whether the language in claim 60 directed to "a database including a plurality of records, each record associated with a known party and including the plurality of attributes related thereto" is unclear because it

does not indicate whether each record has attributes or the plurality of records as a whole have attributes. From a simple grammatical standpoint, however, Applicant submits there is no lack of clarity. The language states, without the use of any intervening commas, that "each record [is] associated with a known party and include[es] a plurality of attributes related thereto" (i.e., related to the known party). The Examiner will note that Applicant has amended this language to correct an antecedent basis issue; however, Applicant otherwise sees no need to amend this language further, as it is clear from the language that each record has a plurality of attributes.

Applicant respectfully submits therefore that all § 112 issues have been appropriately addressed, and reconsideration and withdrawal of all § 112 rejections are therefore respectfully requested.

Next, turning to the art-based rejections, Applicant notes at the outset that the instant rejections constitute the eight such art-based rejections of the claims over the course of nearly 11 years of prosecution, and three attempts to have this application considered on appeal. Piecemeal examination should generally be avoided as much as possible (MPEP 707.07(g)), and Applicant continues to assert that the assertion of new art based rejections on subject matter that is little changed from the originally claimed subject matter, and based upon art that is more or less cumulative of other art that Applicant has previously overcome, does a great disservice. As will be established below, the claims as they currently read are novel and non-obvious over the new reference to Stefik, and as such, allowance of the claims is respectfully requested.

Moreover, the Examiner has apparently chosen in this instance to devote almost no effort to analyzing the claims for patentability. All of the claims are grouped together into an omnibus rejection based upon the text of claim 54, and there has been no analysis of the specific claim language for any of the other 15 claims currently before the Examiner. The Examiner has apparently chosen to merely disregard these claims as lacking patentable distinction (paragraph 32), and has challenged Applicant to prove that the claims are patentably distinct from one another, or risk the imposition of a restriction requirement. Applicant respectfully submits, however, that each pending claim is entitled to examination

on its own merits, and based upon its own specific claim language. And to the extent necessary, Applicant hereby states on the record that the claims are patentably distinct from one another, with the evidence therefor being the differing language in the respective claims. Applicant submits that the Examiner should not be permitted to avoid performing a full examination of the claims through a vague assertion that all claims are not patentably distinct from one another. Applicant also submits that, given the 11 years of prosecution, and the eight separate rejections and associated searches conducted therefor, the Examiner would be hard pressed to establish that an examination of all of the claims without a restriction would impose any serious burden on the Examiner.

Now turning specifically to the Examiner's rejection of independent claim 54, this claim as amended herein generally recites a method of identifying an unknown party interacting with an intelligent agent, which includes:

- determining a plurality of attributes related to the unknown party, wherein the unknown party is a party other than a client that has delegated at least one task to the intelligent agent;

- comparing the plurality of attributes for the unknown party with attributes related to a plurality of known parties; and

- identifying the unknown party as the known party having attributes that most closely match those of the unknown party;

Claim 54 also recites that the unknown party is an intelligent agent configured to conduct electronic transactions, and that the plurality of attributes is selected from the group consisting of an agent name, a client name, a bank name, a bank account number, a credit card number, a homebase location, an agent program name, a location or name of a source with which the unknown party communicates, and combinations thereof.

Claim 54 is rejected as being anticipated by Stefik, and in particular, Figs. 1, 12 and 15 and col. 27 thereof. Stefik, however, is merely directed to a repository for digital works, with simple authentication used to enable users to access the repository. It should be noted that prior Examiners for this case have cited similar authentication-related art, and in each instance, Applicant has established that Applicant's claims are not directed to

simple authentication of a user to access digital content or services, and thus, this type of art is immaterial to Applicant's claims.

Claim 54, in particular, is associated with <u>identifying</u> an unknown party interacting with an <u>intelligent agent</u>, where the unknown party itself is an intelligent agent and is used in conducting electronic transactions. Moreover, claim 54 identifies the unknown party through a comparison of a plurality of attributes for the unknown party with attributes for a plurality of known parties, with the unknown party being identified as the known party having attributes that most closely match those of the unknown party.

As discussed at pages 3 and 4 of the Application, intelligent agents are computer programs that "operate much like software-implemented 'assistants' to automate and simplify certain tasks in a way that hides their complexity from the user." (Application, page 3, lines 6-8). Furthermore, intelligent agents are "characterized by the concept of delegation, where a user, or client, entrusts the agents to handle tasks with at least a certain degree of autonomy," causing them to "operate with varying degrees of constraints depending upon the amount of autonomy that is delegated to them by the user." (Application, page 3, lines 13-18). In addition, as further stated in the Application:

> Intelligent agents may also have differing capabilities in terms of intelligence, mobility, agency, and user interface. Intelligence is generally the amount of reasoning and decision making that an agent possesses. This intelligence can be as simple as following a predefined set of rules, or as complex as learning and adapting based upon a user's objectives and the agent's available resources.
>
> Mobility is the ability to be passed through a network and execute on different computer systems. That is, some agents may be designed to stay on one computer system and may never be passed to different machines, while other agents may be mobile in the sense that they are designed to be passed from computer to computer while performing tasks at different stops along the way. User interface defines how an agent interacts with a user, if at all. (Application, page 3, line 19 to page 4, line 5).

As also noted in the Application, agents have a number of uses in different computer applications, including, for example, electronic commerce, where an agent may be used to seek out other parties such as other users, computer systems and agents, conduct

negotiations on behalf of their client, and enter into commercial transactions. (Application, page 4, lines 6-15). In this regard, one concern that may arise with respect to an intelligent agent relates to the interaction of the agent with unknown parties. Unlike the situation where an agent is interacting with a party that is known to be reliable, when an agent is interacting with an unknown party, the agent may be subjected to a greater risk of malicious activities, e.g., with respect to tampering, deception, snooping, etc. Particularly when an agent is mobile in nature and/or resident on an unsecured or third party computer system, the owner or principal of an agent may not be able to ensure that the agent interacts only with trusted parties. (Application, page 6, lines 4-14). Indeed, it may be desirable in some instances to alter the behavior of an agent when the agent is interacting with unknown parties to better protect the agent against potential malicious activities.

Therefore, to assist in the identification of unknown parties interacting with an intelligent agent, embodiments consistent with the invention of claim 54 maintain records of known parties, such as other intelligent agents, with the records including one or more attributes that are used to characterize those known parties. (Application, page 8, lines 3-8). By doing so, when an agent interacts with an unknown party, the agent is able to compare one or more attributes related to the unknown party with those of known parties. Based upon such a comparison, the agent may be able to identify the unknown party as that known party for which the attributes have been found to most closely match. (Application, page 8, lines 8-16).

Stefik falls far short as an anticipatory reference. First, Stefik is entirely silent with regard to intelligent agents. The Examiner apparently analogizes each repository to an intelligent agent; however, based upon the definition of an intelligent agent as set forth in the Application and discussed above, a repository is not properly analogized to an intelligent agent. In fact, a repository in Stefik is most analogous to a <u>computer</u> and not to a piece of software, much less an intelligent agent. Repositories are discussed in detail starting at col. 12, line 50 of Stefik. As disclosed at col. 14, lines 10-23:

> A repository has both a hardware and functional embodiment. The functional embodiment is typically software executing on the hardware embodiment.

Alternatively, the functional embodiment may be embedded in the hardware embodiment such as an Application Specific Integrated Circuit (ASIC) chip.

The hardware embodiment of a repository will be enclosed in a secure housing which if compromised, may cause the repository to be disabled. The basic components of the hardware embodiment of a repository are described with reference to FIG. 12. Referring to FIG. 12, a repository is comprised of a processing means 1200, storage system 1207, clock 1205 and external interface 1206.

Therefore, while a repository in Stefik may have a software component, a repository in Stefik is also required to have a hardware component as well. Moreover, a repository has no characteristics typically associated with an intelligent agent, such as intelligence, delegation, autonomy, and mobility.

The only mention of "agents" in Stefik is a discussion of a master repository playing the role of an authorization agent (col. 14, lines 4-6) and a generic ticket agent used to punch a digital ticket (col. 15, lines 7-10). These entities, likewise, do not meet the definition of an intelligent agent as outlined above.

Stefik also does not disclose determining a plurality of attributes for an unknown party or comparing the plurality of attributes against attributes of a plurality of known parties. The Examiner cites Fig. 15, and attribute 1516 as allegedly meeting these limitations, however, it should be noted that Fig. 15 appears to disclose attributes of digital works, and not of repositories (which the Examiner alleges to correspond to intelligent agents). Particularly given that digital works in Stefik can be transferred from repository to repository, the attributes for digital works are incapable of identifying any particular repository, since they likely travel with the digital works. Repositories in Stefik apparently exchange digital identification certificates to authenticate themselves with one another, and there is no disclosure in the reference in which multiple attributes of an unknown party are matched against multiple attributes of multiple known parties. At the most, an identification certificate can be analogized to a single attribute.

Stefik also does not disclose comparing multiple attributes, where those attributes are selected from the group consisting of "an agent name, a client name, a bank name, a bank account number, a credit card number, a homebase location, an agent program name,

a location or name of a source with which the unknown party communicates, and combinations thereof," as required by claim 54. As noted above, repositories authenticate with one another via identification certificates, which do not correspond to any of the enumerated attribute types in claim 54.

The Examiner argues that Fig. 15 shows a plurality of attributes and that comparing the plurality of attributes is met because "repository 1 would check every attribute before granting access to repository 2 – fig. 1" (paragraph 31), and that the plurality of attributes includes an agent name (col. 27 and attribute 1516). However, the Examiner's interpretation of Fig. 15 is incorrect, since Fig. 15 lists attributes for digital works, and not repositories, and these attributes are not used in connection with identifying a repository. Moreover, the authentication processes discussed in cols. 27 and 28 arguably convey multiple pieces of information between repositories when one repository authenticates with another repository; however, notably none of this information analogizes to multiple attributes from the enumerated list in claim 54. Even assuming *arguendo* that information analogous to an agent name is conveyed between repositories, there is no other information conveyed corresponding to any of the other items in the enumerated list, and claim 54 requires multiple attributes to be selected from this group.

Accordingly, Stefik does not disclose each and every feature of claim 54, and claim 54 is therefore novel over Stefik and the rejection should be withdrawn. Claim 54 is also non-obvious over Stefik because the Examiner has presented no objective reason why one of ordinary skill in the art would be motivated to modify Stefik for use in connection with identifying intelligent agents interacting with one another, or doing so by comparing multiple attributes from the enumerated list against attributes for a plurality of known parties. Therefore, claim 54 is also non-obvious over Stefik. Reconsideration and allowance of claim 54, and of claims 56-57 and 59 which depend therefrom, are respectfully requested.

Next, with respect to independent claims 60, 61, 113 and 114, these claims have not been separately analyzed by the Examiner, and thus the rejections thereof should be withdrawn for no other reason than the Examiner's failure to meet the minimum burden

required to establish a case of anticipation. Nonetheless, each of these claims recites in part the concept of identifying an unknown intelligent agent interacting with another intelligent agent by comparing a plurality of attributes from the aforementioned enumerated list with those of a plurality of known parties. As discussed above in connection with claim 54, this combination of features is novel and non-obvious over Stefik, and as such, the rejections of these claims should be withdrawn for the same reasons as for claim 54.

In addition, with respect to claim 114, the Examiner argues in paragraph 35 that optional or conditional elements do not narrow the claims, and are thus not limiting. Applicant submits, however, that the language in claim 114 that the Examiner considers to be optional ("controlling a behavior of the intelligent agent when interacting with the unknown party based upon the identification of the unknown party") is not in fact optional. In the context of software-related inventions, reciting an action that occurs in response to a particular condition is almost always limiting because the test for the condition itself is a non-optional operation. The language at issue is therefore not conditional, as the claim requires that, anytime an intelligent agent is interacting with an unknown party, that intelligent agent is being controlled, and it is being controlled based upon the identification of the unknown party. Therefore, this limitation should be granted patentable weight.

Reconsideration and allowance of claims 60-61 and 113-114, as well as of claims 104-105, 107, 109-110, 112 and 115-116, are therefore respectfully requested.

As a final matter, Applicant traverses the Examiner's rejections of the dependent claims based upon their dependency on the aforementioned independent claims. Nonetheless, Applicant does note that a number of these claims recite additional features that further distinguish these claims from the references cited by the Examiner. It should be noted that since the Examiner has failed to address the specific limitations of these claims, the Examiner has not met the burden required to establish anticipation of these claims by Stefik. Stefik in particular does not disclose any of the following features:

- each of the plurality of attributes having a weighting factor associated therewith (claim 104).

- calculating an accumulated weighting factor for each known party by summing the weighting factors of the attributes of the known party which match those of the unknown party, and identifying the unknown party as the known party with the largest accumulated weighting factor (claims 57, 105 and 110).

- scanning program code for an unknown party to determine attributes thereof (claims 59 and 106).

- controlling the behavior of the intelligent agent includes controlling a negotiation strategy used by the intelligent agent when conducting an electronic transaction with the unknown party (claim 115).

- identifying an unknown party as being untrustworthy, modifying the behavior of the intelligent agent to account for increased risk posed by the unknown party and continuing to interact with the unknown party using the modified behavior (claim 116).

Applicant is aware of no material in Stefik that discloses or suggests any of these features, and accordingly, withdrawal of the rejections of these claims is respectfully requested.

In summary, Applicant respectfully submits that all pending claims are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

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Date

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